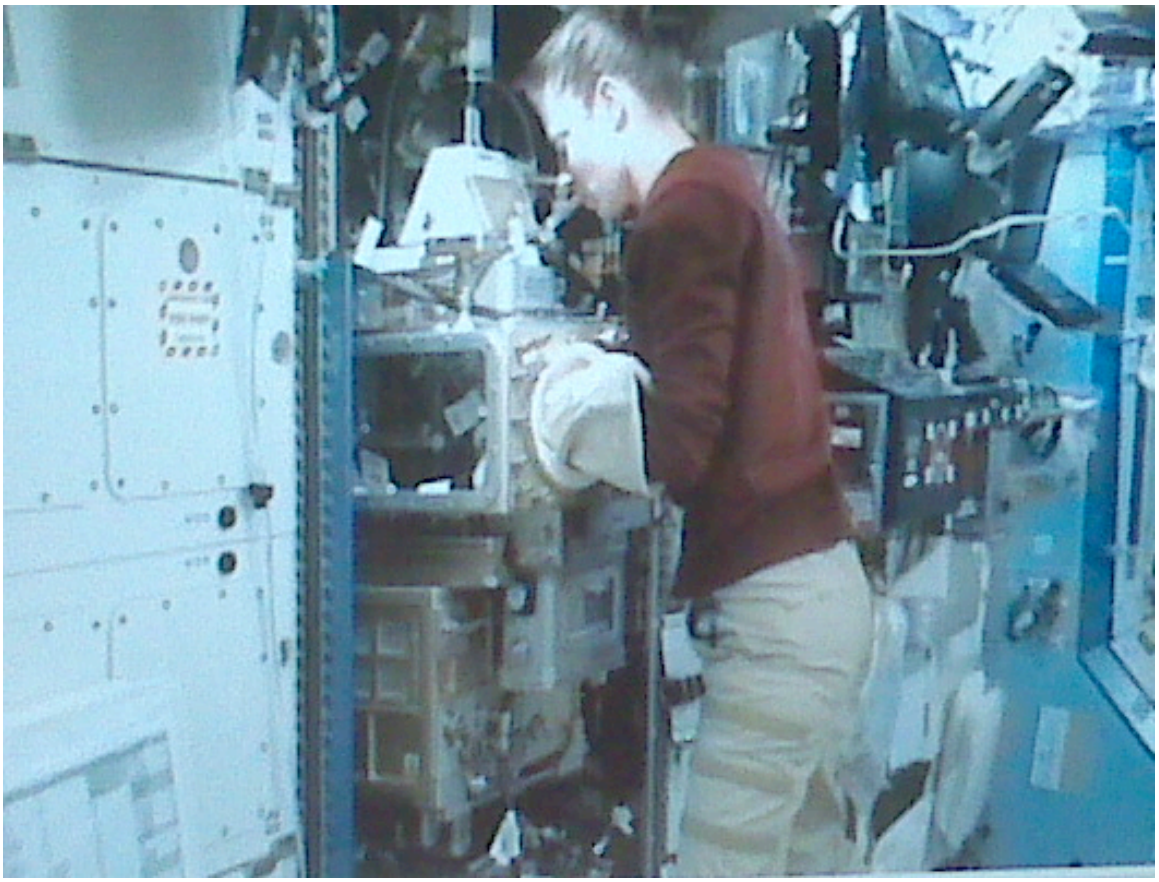
ISS and Human Research Project Office Highlights
April 23, 2010

ISS Research Program

CVB Dry Calibration/Control Microscopy Module installed in LMM on ISS.

The Constrained Vapor Bubble (CVB) 30-mm Pentane module was removed from the Light Microscopy Module (LMM) on April 16, 2010 and replaced with the Dry Calibration/Control Module. Operations will continue with the Dry Module on April 26, 2010. Both the 30 mm and dry module will be returned on ULF-4 in August 2010. Below is an image from the video downlink. (POC: MAH/Ronald Sicker, (216) 433-6498



ISS Flight Engineer (2) Tracy Caldwell Installing the CVB Dry Module on April 16, 2010.

MDCA/FLEX completes multiple tests points on ISS.

Multiple test points for the Multi-use Droplet Combustion Apparatus' Flame Extinguishment Experiment (MDCA/FLEX) were run on April 19, 2010. All were successful to at least some degree and good science data was collected. This data will be transferred and downlinked to ground next week. Three test points from the science matrix were accomplished.
(POC: J. Mark Hickman, (216) 977-7105)

SAME-R holds Engineering Systems Acceptance Review (SAR-1)
The Smoke Aerosol Measurement Experiment-Reflight (SAME-R) team held its Engineering Systems Acceptance Review on April 16, 2010. The SAR-1 Board has recommended that the SAME-R hardware be approved to ship, with some actions to be resolved prior to flight. The Executive SAR (SAR-2) is to be held April 23, 2010. (POC: J. Mark Hickman, (216) 977-7105)

NASA ACME PI Honored
C.K. Law (Robert H. Goddard Professor, Princeton U.) was elected to membership in the American Academy of Arts and Sciences, which is "one of the nation's oldest and most prestigious honorary societies" (http://www.amacad.org/news/new2010.aspx <http://www.amacad.org/news/new2010.aspx>). Law is the PI for the Structure and Response of Spherical Diffusion Flames (s-Flame) experiment, which is one of the four experiments in the Advanced Combustion via Microgravity Experiments (ACME) project that will be conducted on the ISS. Law is a former president of The Combustion Institute (www.combustioninstitute.org <http://www.combustioninstitute.org>) and is an honorary member of their Board of Directors. It is notable that two other ACME researchers (one PI and one Co-I) are currently members of that same international board, where one is also a member of the Executive Committee. Meanwhile, preparations are underway for the ACME Requirements Definition Review (RDR) which will be held on May 10-11. (POC: REC/Dennis Stocker, (216) 433-2166).

DIME teams from Oregon and NY drop experiments in 2.2 Second Drop Tower
The first two Dropping in a Microgravity Environment (DIME) teams were at Glenn Research Center (GRC) on April 20 and 21, 2010 to operate their experiments in the 2.2-Second Drop Tower. Dan Dietrich/REC was the mentor for the team from Tualatin High School in Tualatin, Oregon and John McQuillen/RET was the mentor for the team from Plattsburgh High School in Plattsburgh, NY. After a meet and greet, check-out of experiments and orientation of the 2.2-Second Drop Tower, the teams observe a NASA science drop and then began preparing their experiments for operations. The Tualatin team's experiment consisted of soap films that were created and studied during microgravity after 'curing' for up to five minutes. The Plattsburgh team studied food slurry that was injected successfully into a simulated stomach. In addition to the drops, the teams toured the Zero-Gravity Research Facility, the Icing Research Tunnel and were interviewed by the NASA Educational Technology Services (NETS) Project team and Aerospace Frontiers. For more info about DIME, see: http://microgravity.grc.nasa.gov/DIME.html (POC: MAH/Nancy R. Hall (216) 433-5643)

<u>Human Research Program</u>
GRC's Probabilistic Risk Analysis Approach presented at workshop sponsored by DSRC and DARPA.
On April 15, 2010, Dr. Jerry Myers presented Glenn Research Center's (GRC's) unique Probabilistic Risk Analysis approach for quantifying astronaut medical risk at the "Physiological Modeling for Improved Operational Performance" workshop sponsored by the Defense Science Research Council (DSRC) and the Defense Advanced Research Projects Agency (DARPA) in Houston, TX. The presentation elicited a good deal of discussion and prompted the DSRC panel to request future interactions with GRC in application to DSRC specific goals. (POC: MAH/Jerry Myers, (216) 433-2864)